

## SECTION ON MICROBIOLOGY

APRIL 21, 1948

## I. EXECUTIVE SESSION

- a. Reading of the Minutes
- b. Nomination of Section Officers and five members of Advisory Board

## II. PAPERS OF THE EVENING

## AGGLUTINATION OF RED BLOOD CELLS BY VIRUSES

- a. Studies on the nature of red cell agglutination by viruses  
George K. Hirst  
Public Health Research Institute  
of the City of New York

- b. The significance of combinations between viruses and host cells

Frank L. Horsfall, Jr.  
Hospital of Rockefeller Institute  
for Medical Research

Gregory Schwartzman  
*Chairman*

Harry Most  
*Secretary*

*Studies on the Nature of Red Cell Agglutination by Viruses*

GEORGE K. HIRST

Public Health Research Institute of the City of New York

*Summary.* Some of the facts about the interaction between influenza virus and red cells were reviewed. By testing for the virus adsorbing capacity of red cells, it was found that the virus receptors were very stable to treatment with a number of reagents and to exposure to high temperatures but were inactivated by proteolytic enzymes and by the periodate ion in small concentrations, as well as by influenza virus. These characteristics of the cell receptors were found to be similar to those of the virus inhibitor present in normal serum. Evidence

for the destruction of serum inhibitor by proteolytic enzyme, periodate and by influenza virus was given. Preliminary attempts to isolate the inhibitory principle from normal human plasma yielded a fraction in which the inhibitor activity was destroyed by trypsin, concentrated phenol and by heating. These qualities and the small amount of carbohydrate in active preparations make it seem unlikely that the active principle in serum is closely related to the blood group mucins.

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*The Significance of Combinations Between Viruses and Host Cells*

FRANK L. HORSFALL, JR., PAUL H. HARDY, JR.,  
and FRED M. DAVENPORT

From the Hospital of The Rockefeller Institute for Medical Research

Combinations between viruses and host cells occur with great frequency. It is very probable that in the absence of such a combination infection with a virus does not develop.

Virus-host cell combinations can be divided, for the purposes of this discussion, into at least three different classes which have various degrees of significance and importance.